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AMENDMENTS TO THE CLAIMS

Please amend the claims as follow:

1. (Previously Presented) A semiconductor layer, comprising:
a first layer comprising a Ga₂O₃ system single crystal substrate; and
a second layer obtained by replacing a part rather than all of oxygen atoms of the first layer with nitrogen atoms.
2. (Previously Presented) A semiconductor layer according to claim 1, wherein the second layer comprises a GaN system compound semiconductor.
3. (Cancelled.)
4. (Previously Presented) A semiconductor layer according to claim 1, wherein the first layer comprises Ga₂O₃, (In_xGa_{1-x})₂O₃ where 0 ≤ x < 1, (Al_xGa_{1-x})₂O₃ where 0 ≤ x < 1, (In_xAl_yGa_{1-x-y})₂O₃ where 0 ≤ x < 1, 0 ≤ y < 1, and 0 ≤ x + y < 1 as a main constituent.
5. (Previously Presented) A semiconductor layer according to claim 2, wherein the second layer comprises GaN, In_zGa_{1-z}N where 0 ≤ z < 1, Al_zGa_{1-z}N where 0 ≤ z < 1, In_zAl_pGa_{1-z-p}N where 0 ≤ z < 1, 0 ≤ p < 1, and 0 ≤ z + p < 1 as a main constituent.
6. (Currently Amended) A semiconductor layer, comprising:
a first layer comprising a Ga₂O₃ system semiconductor;
a second layer comprising a GaN system compound semiconductor and obtained by replacing a part or all of oxygen atoms of the first layer with nitrogen atoms; and
a third layer comprising [[an]] a GaN system epitaxial layer grown on the second layer.
7. (Previously Presented) A semiconductor layer, comprising:
a first layer comprising a Ga₂O₃ system semiconductor; and
a second layer comprising a GaN system compound semiconductor and formed on

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the first layer,

wherein the first layer comprises at least one of $(In_xGa_{1-x})_2O_3$ where $0 < x < 1$, $(Al_xGa_{1-x})_2O_3$ where $0 < x < 1$, $(In_xAl_yGa_{1-x-y})_2O_3$ where $0 < x < 1$, $0 < y < 1$, and $0 < x + y < 1$.

8. (Currently Amended) A semiconductor layer, comprising:
 - a first layer comprising a Ga_2O_3 system semiconductor;
 - a second layer comprising a GaN system compound semiconductor and formed on the first layer; and
 - a third layer comprising [[an]] a GaN system epitaxial layer grown on the second layer.
9. (Previously Presented) A semiconductor layer according to claim 1, wherein the first layer consists of a single crystal β - Ga_2O_3 .
10. (Previously Presented) A semiconductor layer according to claim 9, wherein the single crystal β - Ga_2O_3 has a prismatic shape having a square in cross section, and its axis direction matches a-axis <100> orientation, b-axis <010> orientation, or c-axis <001> orientation.
11. (Previously Presented) A semiconductor layer according to claim 1, wherein the first layer comprises $(In_xGa_{1-x})_2O_3$ where $0 < x < 1$.
12. (Previously Presented) A semiconductor layer according to claim 1, wherein the first layer comprises $(Al_xGa_{1-x})_2O_3$ where $0 < x < 1$.
13. (Previously Presented) A semiconductor layer according to claim 1, wherein the first layer comprises $(In_xAl_yGa_{1-x-y})_2O_3$ where $0 < x < 1$, $0 < y < 1$, and $0 < x + y < 1$.
14. (Previously Presented) A semiconductor layer according to claim 6, wherein the second layer comprises a same compound semiconductor as the third layer.

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15. (Previously Presented) A semiconductor layer according to claim 6, wherein the first layer consists of single crystal β - Ga_2O_3 .

16. (Previously Presented) A semiconductor layer according to claim 7, wherein the first layer further comprises a single crystal β - Ga_2O_3 .

17. (Previously Presented) A semiconductor layer according to claim 16, wherein the single crystal β - Ga_2O_3 has a prismatic shape having a square in cross section, and its axis direction matches a-axis <100> orientation, b-axis <010> orientation, or c-axis <001> orientation.

18. (Currently Amended) A semiconductor layer according to claim 7, further comprising a third layer comprising [[an]] a GaN system epitaxial layer grown on the second layer.

19. (Previously Presented) A semiconductor layer according to claim 8, wherein the second layer comprises a same compound semiconductor as the third layer.

20. (Previously Presented) A semiconductor layer according to claim 8, wherein the first layer consists of single crystal β - Ga_2O_3 .

21. (Previously Presented) A semiconductor layer, comprising:
a first layer comprising a Ga_2O_3 system single crystal substrate; and
a second layer obtained by replacing a part rather than all of oxygen atoms of the first layer with nitrogen atoms,
wherein the second layer comprises a GaN system compound semiconductor.